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A method and a device to transfer data between various ports of a network switch of the type having a switching element and a plurality of subsystems. Each of the subsystems is connected to one of the ports and has an address table, a media access controller, and a router. The router includes a destination address register. The optical switching element includes a plurality of sources of optical energy and a plurality of optical detectors. Each of the plurality of subsystems is associated with a holographic transform function. The holographic transform function associated with one of the plurality of subsystems differs from the holographic transform functions associated with the remaining subsystems.